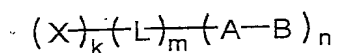


WHAT IS CLAIMED IS:

1. A photothermographic material containing a non-photosensitive silver salt of an organic acid, a photosensitive silver halide, a reducing agent for silver ions and a binder on one surface of a support, which comprises at least one compound represented by the following formula (I) and at least one compound selected from the following (i), (ii), (iii) and (iv):

Formula (I)



wherein, in the above formula, X represents a silver halide adsorption group or light absorption group which contains at least one atom of N, S, P, Se or Te, L represents a (k + n)-valent bridging group containing at least one atom of C, N, S or O, A represents an electron-donating group, B represents a leaving group or a hydrogen atom, A-B is dissociated or deprotonated after oxidation to generate a radical A', k represents 0-3, m represents 0 or 1, and n represents 1 or 2, provided that when k = 0 and n = 1, m = 0.

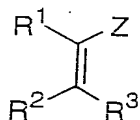
(i) compounds producing imagewise a chemical species that can form development initiation points on and in the vicinity of the non-photosensitive silver salt of an organic acid,

(ii) compounds that provide increase of developed silver grain density to a level of 200-5000% when added in an amount of 0.01 mol/mol of silver,

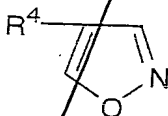
(iii) compounds that provide increase of covering power to a level of 120-1000% when added in an amount of 0.01 mol/mol of silver, and

(iv) compounds represented by any one of the following formula (1) to (3):

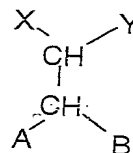
Formula (1)



Formula (2)



Formula (3)



wherein:

in the formula (1),  $R^1$ ,  $R^2$  and  $R^3$  each independently represents a hydrogen atom or a substituent, Z represents an electron withdrawing group, and  $R^1$  and Z,  $R^2$  and  $R^3$ ,  $R^1$  and  $R^2$ , or  $R^3$  and Z may be combined with each other to form a ring structure,

in the formula (2),  $R^4$  represents a substituent, and

in the formula (3), X and Y each independently represent a hydrogen atom or a substituent, A and B each independently represents an alkoxy group, an alkylthio group, an alkylamino group, an aryloxy group, an arylthio group, an anilino group, a heterocyclyloxy group, a heterocyclylthio group or a heterocyclylamino group, and X and Y or A and B may be combined with each other to form a ring structure.

2. A photothermographic material according to Claim 1, which comprises at least one compound of (i).

3. A photothermographic material according to Claim 1, which comprises at least one compound of (ii).

4. A photothermographic material according to Claim 3, wherein said compound of (ii) provides increase of developed silver grain density to a level of 500-3000% when it is added in an amount of 0.01 mol/mol of silver

5. A photothermographic material according to Claim 1, which comprises at least one compound of (iii).

6. A photothermographic material according to Claim 1, wherein said compound of (iii) provides increase of covering

power to a level of 150-500% when it is added in an amount of 0.01 mol/mol of silver.

7. A photothermographic material according to Claim 1,  
5 which comprises at least one compound of (iv).

8. A photothermographic material according to Claim 1,  
which comprises the compound represented by the formula (I) in  
an image-forming layer containing the photosensitive silver  
10 halide.

9. A photothermographic material according to Claim 1,  
which comprises the compound represented by the formula (I) in  
an amount of  $1 \times 10^{-9}$  to  $5 \times 10^{-2}$  mol per mole of silver halide.  
15

10. A photothermographic material according to Claim 1,  
which comprises the compound represented by the formula (I) in  
an amount of  $1 \times 10^{-8}$  to  $2 \times 10^{-3}$  mol per mole of silver halide.

11. A photothermographic material according to Claim 1,  
which comprises the compounds of (i), (ii), (iii) and (iv) in  
an image forming layer comprising said photosensitive silver  
halide or a layer adjacent thereto.  
20

12. A photothermographic material according to Claim 1,  
which comprises the compounds of (i), (ii), (iii) and (iv) in  
an amount of  $1 \times 10^{-6}$  to 1 mol per mole of silver halide.  
25

13. A photothermographic material according to Claim 1,  
which comprises the compounds of (i), (ii), (iii) and (iv) in  
an amount of  $1 \times 10^{-5}$  to  $5 \times 10^{-1}$  mol per mole of silver halide  
30

14. A photothermographic material according to Claim 1,  
which comprises the compounds of (i), (ii), (iii) and (iv) in  
an amount of  $2 \times 10^{-5}$  to  $2 \times 10^{-1}$  mol per mole of silver halide.  
35